DATE 30 Sep 03

USAMMDA INFORMATION PAPER

PRODUCT: ADENOVIRUS VACCINE, TYPES 4 AND 7

DESCRIPTION: Adenovirus vaccine is an orally administered enteric-coated tablet containing live adenovirus serotypes 4 or 7 that has been used exclusively by the military. Prior to the use of vaccines, adenovirus types 4 and 7 accounted for 60% of all acute respiratory diseases in military recruits who were hospitalized. Adenoviruses are associated with pharyngitis, conjunctivitis, atypical pneumonia, and rhinitis. The U.S. Army and the National Institute of Allergy and Infectious Diseases co-sponsored clinical studies that led to the U.S. Food and Drug Administration (FDA) approving adenovirus vaccine in 1980. From 1971 to 1996 a single manufacturer produced adenovirus vaccine types 4 and 7; prior to FDA approval, the vaccine was provided under an Investigational New Drug (IND) application. In 1984 the manufacturer notified the military that the FDA required a new facility to manufacture adenovirus vaccine. Since funds were unavailable at that time, the manufacturer was forced to end production in 1996. The last stocks of vaccines were depleted or expired by 1999. Today, nearly 90% of military recruits are susceptible to either adenovirus type 4 or 7, and since 1999 there have been several adenovirus-related outbreaks. There were two deaths of Navy recruits in July and September 2000 from suspected adenovirus infections. A contract to develop and manufacture the type 4 and 7 adenovirus vaccines was awarded in 2001 to Barr Laboratories, Inc. The first phase of the contract requires an IND application and successful completion of phase I clinical trials. The second phase requires completion of all clinical trials and full FDA licensure of the product. The vaccines are expected to be available in 2008.

PROGRAM RELEVANCE to the ARMY: This product supports both the core mission of the Army and the Army Transformation. Of the Army's core competencies, this product supports: “Shape the Security Environment,” “Forcible Entry Operations,” “Sustained Land Dominance” and “Support Civil Authorities” by protecting U.S. Forces against infection with adenovirus. Adenovirus vaccine will enhance the survivability, sustainability and preserve the fighting strength of U.S. Forces in regions of the world where the disease occurs. In addition, this product supports Future Operational Capability MD 97-007 (Preventive Medicine).

ISSUES/ACTIONS:

- Barr Laboratories completed an agreement with the previous manufacturer to transfer the manufacturing technology, adenovirus master seeds, and human cell cultures used to grow the viruses. However, the previous manufacturer was unable to provide much required information, materials, documentation, and proof of process validation that they were expected to provide. Barr Laboratories has requested additional funding to cover these unanticipated expenses.
- We are currently in the base contract period with Barr Laboratories to develop manufacturing capability and to produce three pilot lots (including one GMP lot) of adenovirus vaccine for type 4 and type 7. The base contract period also includes conducting a phase I clinical trial which is to start approximately February 2004. The first option period of the contract is from phase II clinical trial through FDA licensure. Additional funding needs to be put in place soon, before the base contract period is over, so that there will be no interruption between the phase I and II clinical trials. BioReliance, the only commercial-scale virus contract producer available for adenovirus, is in great demand, and availability with BioReliance needs to be scheduled long in advance.

BPL #: 395
DA PROJECT/TASK: Infectious Diseases
PE/PROJ:
MAMP RANK:
ARMY ORD:

SCHEDULE:
MS A
MS B
MS FRP

For additional information, contact: Pharmaceutical System Division, DSN 343-2051, Comm. 301-619-2051